What is claimed:

1. An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:1; and

b) a nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO:3.

2. An isolated nucleic acid molecule which encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2.

3. An isolated nucleic acid molecule comprising the nucleotide sequence contained in the plasmid deposited with ATCC® as Accession Number _____.

4. An isolated nucleic acid molecule which encodes a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2.

5. An isolated nucleic acid molecule selected from the group consisting of:

a) a nucleic acid molecule comprising a nucleotide sequence which is at least 60% identical to the nucleotide sequence of SEQ ID NO:1 or 3, or a complement thereof;

b) a nucleic acid molecule comprising a fragment of at least 30 nucleotides of a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1 or 3, or a complement thereof;

c) a nucleic acid molecule which encodes a polypeptide comprising an amino acid sequence at least about 60% identical to the amino acid sequence of SEQ ID NO:2; and

d) a nucleic acid molecule which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the fragment comprises at least 10 contiguous amino acid residues of the amino acid sequence of SEQ ID NO:2.

6. An isolated nucleic acid molecule which hybridizes to a complement of the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5 under stringent conditions.

7. An isolated nucleic acid molecule comprising a nucleotide sequence which is complementary to the nucleotide sequence of the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5.

8. An isolated nucleic acid molecule comprising the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5, and a nucleotide sequence encoding a heterologous polypeptide.

9. A vector comprising the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5.

10. The vector of claim 9, which is an expression vector.

11. A host cell transfected with the expression vector of claim 10.

12. A method of producing a polypeptide comprising culturing the host cell of claim 11 in an appropriate culture medium to, thereby, produce the polypeptide.

13. An isolated polypeptide selected from the group consisting of:

a) a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the fragment comprises at least 10 contiguous amino acids of SEQ ID NO:2;

b) a naturally occurring allelic variant of a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes to a complement of a nucleic acid molecule consisting of SEQ ID NO:1 or 3 under stringent conditions;

c) a polypeptide which is encoded by a nucleic acid molecule comprising a nucleotide sequence which is at least 60% identical to a nucleic acid comprising the nucleotide sequence of SEQ ID NO:1 or 3; and

d) a polypeptide comprising an amino acid sequence which is at least 60% identical to the amino acid sequence of SEQ ID NO:2.

14. The isolated polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO:2.

15. The polypeptide of claim 13, further comprising heterologous amino acid sequences.

16. An antibody which selectively binds to a polypeptide of claim 13.

17. A method for detecting the presence of a polypeptide of claim 13 in a sample comprising:

a) contacting the sample with a compound which selectively binds to the polypeptide; and

b) determining whether the compound binds to the polypeptide in the sample to thereby detect the presence of a polypeptide of claim 13 in the sample.

18. The method of claim 17, wherein the compound which binds to the polypeptide is an antibody.

19. A kit comprising a compound which selectively binds to a polypeptide of claim 13 and instructions for use.

20. A method for detecting the presence of a nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5 in a sample comprising:

a) contacting the sample with a nucleic acid probe or primer which selectively hybridizes to a complement of the nucleic acid molecule; and

b) determining whether the nucleic acid probe or primer binds to the complement of the nucleic acid molecule in the sample to thereby detect the presence of the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5 in the sample.

21. The method of claim 20, wherein the sample comprises mRNA molecules and is contacted with a nucleic acid probe.

22. A kit comprising a compound which selectively hybridizes to a complement of the nucleic acid molecule of any one of claims 1, 2, 3, 4, or 5 and instructions for use.

23. A method for identifying a compound which binds to a polypeptide of claim 13 comprising:

a) contacting the polypeptide, or a cell expressing the polypeptide with a test compound; and

b) determining whether the polypeptide binds to the test compound.

24. The method of claim 23, wherein the binding of the test compound to the polypeptide is detected by a method selected from the group consisting of:

a) detection of binding by direct detection of test compound/polypeptide binding;

b) detection of binding using a competition binding assay; and

c) detection of binding using an assay for DHDR-7 activity.

25. A method for modulating the activity of a polypeptide of claim 13 comprising contacting the polypeptide or a cell expressing the polypeptide with a compound which binds to the polypeptide in a sufficient concentration to modulate the activity of the polypeptide.

26. A method for identifying a compound which modulates the activity of a polypeptide of claim 13 comprising:

a) contacting a polypeptide of claim 13 with a test compound; and

b) determining the effect of the test compound on the activity of the polypeptide to thereby identify a compound which modulates the activity of the polypeptide.

27. The method of claim 26, wherein said activity is modulation of dehydrogenation of acyl-CoA esters.

28. A method of identifying a nucleic acid molecule associated with a cellular growth or proliferation disorder comprising:

a) contacting a sample comprising nucleic acid molecules with a hybridization probe comprising at least 25 contiguous nucleotides of SEQ ID NO:1; and

b) detecting the presence of a nucleic acid molecule in said sample that hybridizes to said probe, thereby identifying a nucleic acid molecule associated with a cellular growth or proliferation disorder.

29. A method of identifying a nucleic acid associated with a cellular growth or proliferation disorder comprising:

a) contacting a sample comprising nucleic acid molecules with a first and a second amplification primer, said first primer comprising at least 25 contiguous nucleotides of SEQ ID NO:1 and said second primer comprising at least 25 contiguous nucleotides from the complement of SEQ ID NO:1;

b) incubating said sample under conditions that allow nucleic acid amplification; and

c) detecting the presence of a nucleic acid molecule in said sample that is amplified, thereby identifying a nucleic acid molecule associated with a cellular growth or proliferation disorder.

30. A method of identifying a polypeptide associated with a cellular growth or proliferation disorder comprising:

a) contacting a sample comprising polypeptides with a DHDR-7 binding substance; and

b) detecting the presence of a polypeptide in said sample that binds to said DHDR-7 binding substance, thereby identifying a polypeptide associated with a cellular growth or proliferation disorder.

31. A method of identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder comprising:

a) contacting a sample obtained from said subject comprising nucleic acid molecules with a hybridization probe comprising at least 25 contiguous nucleotides of SEQ ID NO:1; and

b) detecting the presence of a nucleic acid molecule in said sample that hybridizes to said probe, thereby identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder.

32. A method of identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder comprising:

a) contacting a sample obtained from said subject comprising nucleic acid molecules with a first and a second amplification primer, said first primer comprising at least 25 contiguous nucleotides of SEQ ID NO:1 and said second primer comprising at least 25 contiguous nucleotides from the complement of SEQ ID NO:1;

b) incubating said sample under conditions that allow nucleic acid amplification; and

c) detecting the presence of a nucleic acid molecule in said sample that is amplified, thereby identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder.

33. A method of identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder comprising:

a) contacting a sample obtained from said subject comprising polypeptides with a DHDR-7 binding substance; and

b) detecting the presence of a polypeptide in said sample that binds to said DHDR-7 binding substance, thereby identifying a subject having a cellular growth or proliferation disorder, or at risk for developing a cellular growth or proliferation disorder.

34. A method for identifying a compound capable of treating a cellular growth or proliferation disorder characterized by aberrant DHDR-7 nucleic acid expression or DHDR-7 polypeptide activity comprising assaying the ability of the compound to modulate DHDR-7 nucleic acid expression or DHDR-7 polypeptide activity, thereby identifying a compound capable of treating a cellular growth or proliferation disorder characterized by aberrant DHDR-7 nucleic acid expression or DHDR-7 polypeptide activity.

35. The method of claim 34, wherein the disorder is cancer.

36. A method for treating a subject having a cellular growth or proliferation disorder characterized by aberrant DHDR-7 polypeptide activity or aberrant DHDR-7 nucleic acid expression comprising administering to the subject an DHDR-7 modulator, thereby treating said subject having a cellular growth or proliferation disorder.

37. The method of claim 36, wherein the DHDR-7 modulator is a small molecule.

38. The method of claim 36, wherein the disorder is cancer.

39. A method for identifying a compound capable of modulating cellular growth or proliferation comprising:

a) contacting a cell with a test compound; and

b) assaying the ability of the test compound to modulate the expression of a DHDR-7 nucleic acid or the activity of a DHDR-7 polypeptide;

thereby identifying a compound capable of modulating an cellular growth or proliferation.

40. A method of inhibiting tumor progression in a subject comprising administering to said subject a DHDR-7 inhibitor such that tumor progression is inhibited in said subject.